

Appl. No. : 09/898,990
Filed : July 3, 2001

REMARKS

The foregoing amendments are responsive to the August 26, 2003, Office Action. Applicants respectfully request reconsideration of the present application in view of the foregoing amendments and the following remarks.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Response to Objection to Claims

The Examiner objected to the numbering of originally-filed Claims 12-15 and 19-21, and to Claims 22-40 added by preliminary amendments. The Examiner is correct that Claims 22-40 should have been numbered 8-26. Applicants have renumbered Claims 22-40 accordingly.

Response to Rejection of Claims 21-26 Under 35 U.S.C. 112

The Examiner objected to Claims 21-26 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out an distinctly claim the subject matter that applicant regards as the invention. The Examiner argues that the subject matter of the claim is inconsistent with the preamble, "as the preamble indicates that a method of use will be set forth, while the claim steps appear to be relate[d] more closely to a manufacturing process."

Applicants respectfully point out that the subject matter of the claim describes a method of reducing light from at least one emitter which reaches a detector without non-reflectively passing through a medium. That the method can be practiced by a manufacturer or by others does not render the claim indefinite. Applicants request the Examiner to withdraw the rejection of Claims 21-26 under 35 U.S.C. 112. Accordingly, Applicants assert that Claims 21-26 are allowable, and Applicants request allowance of Claims 21-26.

Response to Rejection of Claims 10, 11, and 17-20 Under 35 U.S.C. 101

The Examiner rejected Claims 10, 11, and 17-20 as being directed to non-statutory subject matter. The Examiner argues that the detector and disposable substrate element recited in Claim 10 improperly includes a body portion. Applicants have amended Claim 10 to clarify that the elements are "adapted to" operate with respect to the tissue.

Response to Rejection of Claims 8-13, 15-18, and 20 Under 35 U.S.C. 102(b)

The Examiner rejected Claims 8-13, 15-18, and 20 Under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,337,744 to Branigan. The Examiner argues that Branigan

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teaches an opaque sheath having apertures and that it is inherent that the apertures would act as "optical obstruction" or "optical barrier" elements.

The finger cots taught by Branigan suffer from the light piping phenomenon that Applicants have identified as a source of errors in pulse oximetry systems. The Examiner's attention is drawn to Figures 9 and 10 of Branigan which show a gap between the surface of the skin of the finger 28 and the inside of the finger cot 22. It is through this gap that light-piping occurs. The claimed optical obstruction cannot be inherent in Branigan, as Branigan did not teach or suggest an optical obstruction between an emitter and a detector which reduces piping of the optical radiation between the emitter and the detector to deal with the light piping problem. Similarly, the claimed optical barrier cannot be inherent in Branigan, as Branigan did not teach or suggest an optical barrier to deal with the light piping problem.

Accordingly, the prior art does not teach or suggest a disposable optical probe having at least one light emitter adapted to transmit optical radiation into a first side of a medium, a detector adapted to receive an attenuated portion of the optical radiation after being transmitted through the medium to a second side, a disposable substrate carrying the at least one emitter and detector, and an optical obstruction between the at least one emitter and the detector which reduces piping of the optical radiation between the at least one emitter and the detector without transmission through the medium, when the optical probe is affixed to a portion of a patient, as recited in Claim 8.

Regarding Claim 9, the prior art does not teach or suggest the disposable optical probe of Claim 8, wherein the optical obstruction comprises an aperture in the disposable substrate between the at least one emitter and the detector.

Regarding Claim 10, the prior art does not teach or suggest a disposable optical sensor for use in a physiological monitoring having at least one emitter which emits light, a detector adapted to receive the light after non-reflective transmission through tissue of a patient, a disposable substrate adapted to position the emitter and the detector proximate to the tissue, and an optical barrier between the at least one emitter and the detector to substantially obstruct the emitted light from transmitting along the disposable substrate between the at least one emitter and the detector without having passed through the tissue of the patient when the disposable optical sensor is affixed to a patient.

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Regarding Claim 11, the prior art does not teach or suggest the disposable optical sensor of Claim 10, wherein the optical barrier comprises an aperture in the disposable substrate between the at least one emitter and the detector.

Regarding Claim 12, the prior art does not teach or suggest the disposable optical probe of Claim 8, wherein the optical obstruction comprises an opaque shield having at least one surface between the at least one emitter and the detector, the at least one surface reducing the piping of the optical radiation.

Regarding Claim 14, the prior art does not teach or suggest the disposable optical probe of Claim 12, wherein the opaque shield forms a receptacle adapted to receive the detector.

Regarding Claim 15, the prior art does not teach or suggest the disposable optical probe of Claim 12, wherein the opaque shield comprises a opaque cover.

Regarding Claim 16, the prior art does not teach or suggest the disposable optical probe of Claim 15, wherein the opaque cover covers one of the at least one emitter and the detector.

Regarding Claim 17, the prior art does not teach or suggest the disposable optical sensor of Claim 10, wherein the optical barrier comprises an opaque material.

Regarding Claim 18, the prior art does not teach or suggest the disposable optical sensor of Claim 10, wherein the optical barrier comprises a cavity adapted to receive the detector.

Regarding Claim 20, the prior art does not teach or suggest the disposable optical sensor of Claim 10, wherein the optical barrier comprises a cover over one of the at least one emitter and the detector.

Accordingly, Applicants assert that Claims 8-13, 15-18, and 20 are allowable over the prior art, and Applicants request allowance of Claims 14 and 19.

Response to Rejection of Claims 14 and 19 Under 35 U.S.C. 102(b)

Response to Rejection of Claims 14 and 19 Under 35 U.S.C. 103(a) as being unpatentable over Branigan.

Regarding Claim 14, the prior art does not teach or suggest the disposable optical probe of Claim 13, wherein the receptacle is rectangular.

Regarding Claim 19, the prior art does not teach or suggest the disposable optical sensor of Claim 18, wherein the cavity is rectangular.

Accordingly, Applicants assert that Claims 14 and 19 are allowable over the prior art, and Applicants request allowance of Claims 14 and 19.

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Rejection of Claims 8-11 Under Obviousness-type Double Patenting

The Examiner rejected Claims 8-11 under the judicially-created doctrine of obviousness-type double patenting as being unpatentable over U.S. Patent No. 5,782,757. Applicants are prepared to file a terminal disclaimer to traverse this double patenting rejection should the Examiner agree that Claims 8-11 are otherwise allowable in their present form.

Summary

Applicants respectfully assert that Claims 1-26 are in condition for allowance, and Applicants request allowance of Claims 1-26. If there are any remaining issues that can be resolved by a telephone conference, the Examiner is invited to call the undersigned attorney at (949) 721-6305 or at the number listed below.

Respectfully submitted,
KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: Nov 4, 2003

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